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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,157	02/12/2004	Yao-Ching Su	AUOP0010USA	2156
27765	7590	07/11/2005	EXAMINER	
NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)			GUHARAY, KARABI	
P.O. BOX 506			ART UNIT	PAPER NUMBER
MERRIFIELD, VA 22116			2879	
DATE MAILED: 07/11/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/708,157	Applicant(s) SU ET AL.	
	Examiner Karabi Guharay	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- (1) # 14, described in page 2 of the specification not shown in Fig 1 or Fig 2,
- (2) # 60 mentioned in paragraph 0028 of specification not shown in Fig 16,
- (3) # 90 described in paragraph 0030 of specification not shown in Fig 17 .

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either

Art Unit: 2879

"Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Betsui et al. (US 5825128).

Regarding claim 1, Betsui et al. disclose a plasma display panel 1 (Fig 3) comprising a plurality of first discharge spaces 30 (spaces between adjacent barrier ribs 29, see Fig 3 & Fig 4A) positioned between a front substrate (11) and a rear substrate (21) and a plurality of sub-pixel units EU (28B, 28G, 28R), each of the first discharge spaces comprising at least two of the sub-pixels (see Fig 4A).

Regarding claim 2, Betsui discloses that the sub-pixel units (EU) comprise a plurality of red, green and blue sub-pixels wherein one of the red, green and blue sub-pixel unit together constitute a pixel EG (see Fig 4B, & lines 38-41 of column 5).

Art Unit: 2879

Regarding claim 3, Betsui discloses that each of the sub-pixel units EU comprises a first electrode X_n , a second electrode Y_n adjacent to the first electrode, and an addressing electrode A opposite to the first electrode and the second electrode for igniting plasma in each of the sub-pixel units (Fig 3, lines 17-21 of column 4).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Sano et al. (US 6870316).

Regarding claims 1-3, Sano et al. disclose a plasma display panel comprising a plasma display panel (Fig 6b, & Fig 10) comprising a plurality of first discharge spaces 27 (spaces between adjacent barrier ribs 29) positioned between a front substrate (11) and a rear substrate (21) and a plurality of sub-pixel units (B, G, R, Fig 11), each of the first discharge spaces comprising at least two of the sub-pixels (see Fig 10), each of the sub-pixel units (R,G,B) comprises a first electrode, a second electrode (pair of display electrode 41, see Fig 2) adjacent to the first electrode, and an addressing electrode 22 (Fig 2) opposite to the first electrode and the second electrode for igniting plasma in each of the sub-pixel units (lines 15-49 of column 4).

Regarding claim 4, Sano et al. discloses protruding parts (X, Y of Fig 10) from the first and second electrode opposing each other in each sub-pixel units.

Regarding claim 5, Sano et al. disclose a plurality of first closed rib unit positioned between front and rear substrate (Fig 11 & Fig 12).

Art Unit: 2879

Regarding claim 6, Sano et al. disclose that the first discharge spaces (27) is defined between the front substrate, rear substrate, and each of the closed rib units (Fig 11 & 12).

Regarding claims 7-8, Sano et al. disclose each of the first closed rib unit comprises at least one extended rib for separating the sub-pixels in each of the closed rib unit from each other and the each of the closed rib units comprises a structure of hexagonal ring (Fig 12).

Regarding claim 9, Sano et al. disclose that the sub-pixel units of each pixel unit are arranged in a delta (lines 50-52 of column 5, & Fig 12).

Regarding claim 10, Sano et al. disclose that the sub-pixel units of each pixel are arranged in a line (Fig 9).

Regarding claims 11-14, Sano et al. disclose that the second discharge spaces each comprises one sub-pixel unit, second closed rib units includes second closed discharge space is defined between front and rear substrate (Fig 11-12) having hexagonal shape.

Regarding claims 15-16, Sano et al. disclose a plurality of waffle –structured ribs positioned between front and rear substrate extending along a first direction and first discharge space (27 of Fig 10) is defined between the front and rear substrate and two adjacent waffle structure ribs (Fig 10).

Regarding claim 17, Sano et al. disclose a plurality of second discharge spaces each of which comprises one of the sub-pixel units (Fig 12).

Art Unit: 2879

Regarding claim 18, Sano et al. disclose that each of waffle-structured ribs comprises a plurality of third closed rib units arranged in a matrix (Fig 13-15).

Regarding claims 19-20, Sano et al. disclose that the second discharge spaces is defined between the front substrate, rear substrate, and each of the third closed rib and sub-pixels are arranged in a line (see Fig 13-15).

Regarding claim 21, Sano et al. disclose a plurality of bar-like ribs positioned on the rear substrate extending in a first direction (Fig 16A & Fig 10).

Regarding claim 22, Sano et al. disclose that the first discharge space (27) is defined by front substrate, rear substrate and two adjacent bar-like ribs 29 (see Fig 10).

Regarding claim 23, Sano et al. disclose that first discharge space (see Fig 10) comprises a plurality of first regions (regions containing electrode X, Y) each of which comprises two sub-pixels and a plurality of second regions located between adjacent first regions and has a smaller area than the first region (regions not containing X, Y).

Regarding claim 24, Sano et al. disclose that the sub-pixels are arranged like delta (lines 50-52 of column 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of

Art Unit: 2879

each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Betsui et al. as applied to claim 1 above, and further in view of Amemiya (US 5640068).

Regarding claim 4, Betsui discloses all the limitations of claim 4, except for first and second electrode of each of the sub-pixel units comprise a first protruded portion and a second protruded portion respectively where the first protruded portion being opposite to the second protruded portion.

However, Amemiya in the same field of AC plasma display discloses first and second electrodes (X, Y) each having protruding portions facing each other in a display cell (Fig 1-2, Fig 7A, lines 8-21 of column 4) and further teaches that such a structure of the electrodes provide the advantage of improved efficiency while at least one of amount of discharge current or the discharge voltage is decreased thus consumption power of the per pixel region is decreased and heat generation in a pixel unit is also decreased (lines 1-15 of column 2).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have protruded portions in first and second electrode opposing each other in a sub-pixel unit, as discloses by Amemiya, in the device of Betsui et al. in order to decrease the power consumption in each pixel and also to improve emission efficiency.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to

Art Unit: 2879

applicant's disclosure :

Jeong et al. (US 6784617) & Takagi et al. (US 6376986); Particularly relevant for claims 1-4.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karabi Guharay
Karabi Guharay
Patent Examiner
Art Unit 2879